



UNITED STATES PATENT AND TRADEMARK OFFICE

VS
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,558	03/08/2002	Olof Arvidsson	0104-0386P	7898
2292	7590	03/07/2008	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			FAULK, DEVONA E	
PO BOX 747				
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			2615	
			NOTIFICATION DATE	DELIVERY MODE
			03/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)
	10/092,558	ARVIDSSON, OLOF
	Examiner Devona E. Faulk	Art Unit 2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 05 December 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 20-22 is/are allowed.
 6) Claim(s) 1,8-18,23-25,27 and 29-37 is/are rejected.
 7) Claim(s) 3-7,19,26 and 28 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 08 March 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 12/5/2007, with respect to the rejection(s) of claim(s) 1-37 under 112 1st have been fully considered and are persuasive.

Claim Objections

2. Claims 3-7,19,26,28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,11-18,23-25,27,29-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 5,966,639) in view of McKinley Jr. (US 4,479,240) in further view of Bissonnette et al. (US 4,918,717).

5. Regarding claim 1, Goldberg discloses a system for receiving audio signals from a plurality of microphones and transferring said audio signals via a common composite signal channel to a receiving unit, said system comprising:

at least two satellite units (105,107, Figure 1;column 4, lines 17-20), each having a microphone signal input (microphones 120, Figure 1; 28-31), a composite signal channel input (115, Figure 1; column 4, lines 38-45) and summing means for summing

Art Unit: 2615

a microphone signal and a composite signal (mixer 135, Figure 4; column 4, lines 36-40); and

wherein each satellite unit is connected to said common composite signal channel, such that the microphone signal received at the respective satellite unit, is added to said composite signal (the combined audio 150 of talkers B and C indicated at 145 is an output of the mixer 135, which is then transmitted over transmit antenna 110 from unit B to received antennal of unit A. The combined audio is received at unit A and transmitted to the mixer 135. The mixer 135 similarly mixes unit A microphone with the combined audio 150 to provide a combined output 160 , column 4, lines 35-50, which is fed to a master unit 170, Figure 4).

Goldberg teaches of sending a composite signal channel to a master unit.

Goldberg does not disclose a master unit having a composite signal channel input and signal converting means for converting the composite signal into a master signal output which is provided to the receiving unit. McKinley discloses a audio mixing console comprising a master unit 18 used for adding special effects to a composite site (converting a composite signal into a master signal output) for the receiving unit 20. Goldberg discloses a wireless implementation but it is well known in the art to use cabling as an alternative method of transmission. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Goldberg to incorporate the teaching of McKinley for the purpose of adding special effects to the mixed signal, thereby increasing the enjoyment of the sound mixing listening environment.

Goldberg as modified fails to disclose wherein said master unit is arranged to supply operating power to the satellite units. Bissonnette discloses a main unit that provides power to a plurality of microphones (column 11, lines 18-24). It would have been obvious to modify Goldberg as modified by incorporating the teaching of Bissonnette such that the master unit provides power to the satellite units in order to have only one power source thus reducing the hardware needed for the device.

Regarding claim 2, Goldberg as modified discloses wherein at least one of said satellite units comprises a composite signal channel input and a composite signal channel output, and wherein the composite signal output of a first satellite unit is connected to the composite signal channel input of the master unit; the composite signal output of a second satellite unit is connected to the composite signal input of the first satellite unit; and signals received at the composite signal input and at the microphone signal input of the respective satellite unit are added by the respective summing means and provided at the composite signal output. Goldberg as applied to claim 1 above teaches of satellite units (105,107, Figure 1; column 4, lines 17-20) that each having a microphone signal input (microphones 120, Figure 1; 28-31), a composite signal channel input (115, Figure 1; column 4, lines 38-45) , composite signal output 110 and summing means for summing a microphone signal and a composite signal (mixer 135, Figure 4; column 4, lines 36-40). The combined audio 150 of talkers B and C indicated at 145 is an output of the mixer 135, which is then transmitted over transmit antenna 110 from unit B to received antennal of unit A. The combined audio is received at unit A and transmitted to the mixer 135. The mixer 135 similarly mixes unit A microphone with the combined

Art Unit: 2615

audio 150 to provide a combined output 160 , column 4, lines 35-50, which is fed to a master unit 170, Figure 4). All elements of claim 2 are comprehended by the rejection of claim 1.

Regarding claim 11, Goldberg as modified discloses wherein said summing means comprise a superposition circuit, arranged to superpose the microphone signal onto the composite signal (mixer s135 add two signals therefore inherently superimposing one signal onto another).

Regarding claim 12, Goldberg as modified discloses wherein said summing means comprises a summing circuit (mixer 135 is a summing circuit) .

Regarding claim 13, Goldberg as modified discloses wherein said summing circuit is an analog summing circuit (mixer 135 is an analog summing circuit).

Regarding claim 14, the examiner takes official notice that digital signal processing techniques are well known in the art. It would have been obvious to modify Goldberg as modified to have the mixer be a digital adding circuit for the benefit of

Regarding claim 15, the examiner takes official notice that amplifier is well known in the art. It would have been obvious to have the signal converting means comprise an amplifier in order to provide an amplified output signal.

Regarding claim 16, the examiner takes official notice that a transformer is well known in the art. It would have been obvious to have the signal converting means comprise a transformer in order to provide power or to filter the signal.

Regarding claim 17, the examiner takes official notice that an electronic balancing circuit is well known in the art. It would have been obvious to have the signal converting means comprise an electronic balancing circuit to balance the signal.

Regarding claim 18, Goldberg as modified discloses that the master signal is an audio signal adapted for standard mixing console inputs (all audio signal are able to be reproduced by standard mixing consoles).

Regarding claim 23, Goldberg as modified discloses wherein said master unit and said satellite units are contained in a separate housing and that the master unit and satellite united are connected wirelessly. Goldberg as modified fails to disclose that said master unit and satellite units are interconnected by cables. Cable transmission is well known in the art and it would have been obvious to modify Goldberg as modified by using cable as the form of transmission in order to provide an alternative method of transmission.

Regarding claim 24, Goldberg as modified discloses wherein said satellite units are arranged near a respective microphone and said master unit is arranged near said satellite unit (See Goldberg and McKinley as applied above to claim 1). All elements of claim 25 are comprehended by the rejection of claim 1.

Regarding claim 25, Goldberg as modified discloses said master unit comprising: a composite signal input connector for receiving a composite signal from a plurality of satellite units; signal converting means for converting the composite signal into a master signal, and a master signal output connector for providing said master signal to a

Art Unit: 2615

receiving unit, such as a mixing console (this is essentially a repeat of the master unit limitation of claim 1; See Goldberg, McKinley and Bissonnette as applied above to claim

1). All elements of claim 25 are comprehended by the rejection of claim 1.

Regarding claim 27, Goldberg as modified discloses a satellite unit comprising: a composite signal channel connector for receiving a composite signal (Goldberg teaches of a composite signal channel input 115, therefore the connector is implicit, Figure 1; column 4, lines 38-45); a microphone input connector for receiving a microphone signal (Goldberg teaches of microphones 120, the connector is implicit Figure 1; 28-31) and summing means for summing said composite signal and said microphone signal (Goldberg teaches of mixer 135 that adds a composite signal and a microphone signal; column 4, lines 36-46).

Regarding claim 29, Goldberg discloses a method for receiving audio signals from a plurality of microphones and transferring said audio signals via a common signal channel to a receiving unit, said method comprising the steps of:

receiving a plurality of microphone signals at a plurality of separately housed satellite units, which are connected to a signal channel, (each microphone 120 is received at separate housed satellite unit 105,107, Figure 1)

adding said plurality of microphone signals to form a composite signal in said signal channel (the combined audio 150 of talkers B and C indicated at 145 is an output of the mixer 135, which is then transmitted over transmit antenna 110 from unit B to received antennal of unit A. The combined audio is received at unit A and transmitted

Art Unit: 2615

to the mixer 135. The mixer 135 similarly mixes unit A microphone with the combined audio 150 to provide a combined output 160 , column 4, lines 35-50, which is fed to a master unit 170, Figure 4),

receiving said composite signal in a master unit (170 receives the composite signal; column 4, lines 45-52),

and wherein each separately housed satellite unit is positionable away from the receiving unit (Figure 1).

Goldberg fails to disclose converting said composite signal into a master signal providing said master signal to said receiving unit and wherein each satellite unit is arranged to receive operating power from the master unit.

McKinley discloses a audio mixing console comprising a master unit 18 used for adding special effects to a composite site (converting a composite signal into a master signal output) for the receiving unit 20. Goldberg discloses a wireless implementation but it is well known in the art to use cabling as an alternative method of transmission. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Goldberg to include the master unit of McKinley for the purpose of adding special effects to the mixed signal, thereby increasing the enjoyment of the sound mixing listening environment.

Goldberg as modified fails to disclose wherein said master unit is arranged to supply operating power to the satellite units. Bissonnette discloses a main unit that provides power to a plurality of microphones (column 11, lines 18-24). It would have

Art Unit: 2615

been obvious to modify Goldberg as modified by incorporating the teaching of Bissonnette such that the master unit provides power to the satellite units in order to have only one power source thus reducing the hardware needed for the device.

Regarding claim 30, Goldberg as modified discloses wherein microphone signals are added to the signal channel in the satellite units and conveyed to a master unit for conversion into a master signal (See Goldberg, McKinley and Bissonnette as applied to claim 29 above).

Regarding claim 31, Goldberg as modified discloses wherein said master unit and at least one of said satellite units are interconnected wirelessly. Goldberg as modified fails to disclose that said master unit and satellite units are interconnected by cables. Cable transmission is well known in the art and it would have been obvious to modify Goldberg as modified by using cable as the form of transmission in order to provide an alternative method of transmission.

Regarding claim 32, Goldberg as modified discloses wherein said composite signal channel is arranged to be propagated between the satellite unit and the master unit wirelessly. Goldberg as modified fails to disclose that the composite signal channel is arranged to be propagated between the satellite unit and the master unit by said first cable. Cable transmission is well known in the art and it would have been obvious to modify Goldberg as modified by using cable as the form of transmission in order to provide an alternative method of transmission.

Regarding claim 33, Goldberg as modified discloses wherein said first cable is arranged to propagate said composite signal channel and said operating power. The cable propagating the composite signal channel then implicitly it propagates operating power. All elements of claim 33 are comprehended by the rejection of claim 31.

Regarding claim 34, Goldberg as modified discloses wherein said at least two satellite units are interconnected wirelessly. Goldberg as modified fails to disclose that at least two satellite units are interconnected by a second cable. Cable transmission is well known in the art and it would have been obvious to modify Goldberg as modified by using cable as the form of transmission in order to provide an alternative method of transmission.

Regarding claim 35, Goldberg as modified discloses wherein said composite signal channel is arranged to be propagated between said satellite units wirelessly. Goldberg as modified fails to disclose that the composite signal channel is propagated by said second cable. Cable transmission is well known in the art and it would have been obvious to modify Goldberg as modified by using cable as the form of transmission in order to provide an alternative method of transmission.

Regarding claim 36, Goldberg as modified discloses a composite signal channel is

propagated between satellite units wirelessly. Goldberg as modified fails to disclose. wherein said second cable is arranged to propagate said composite signal channel and said operating power between said satellite units. The cable propagating the composite signal channel then implicitly it propagates operating power. All elements of claim 36 are comprehended by the rejection of claim 34.

Regarding claim 37, Goldberg discloses a system for receiving audio signals from a plurality of microphones and transferring said audio signals via a common composite signal channel to a receiving unit, said system comprising:

at least two satellite units (105,107, Figure 1;column 4, lines 17-20), each having a microphone signal input (microphones 120, Figure 1; 28-31), a composite signal channel input (115, Figure 1; column 4, lines 38-45) and summing means for summing a microphone signal and a composite signal (mixer 135, Figure 4; column 4, lines 36-40); and

wherein each satellite unit is connected to said common composite signal channel, such that the microphone signal received at the respective satellite unit, is added to said composite signal (the combined audio 150 of talkers B and C indicated at 145 is an output of the mixer 135, which is then transmitted over transmit antenna 110 from unit B to received antennal of unit A. The combined audio is received at unit A and transmitted to the mixer 135. The mixer 135 similarly mixes unit A microphone with the combined audio 150 to provide a combined output 160, column 4, lines 35-50, which is fed to a master unit 170, Figure 4).

Goldberg teaches of sending a composite signal channel to a master unit.

Goldberg does not disclose a master unit having a composite signal channel input and signal converting means for converting the composite signal into a master signal output which is provided to the receiving unit. McKinley discloses a audio mixing console comprising a master unit 18 used for adding special effects to a composite site (converting a composite signal into a master signal output) for the receiving unit 20. Goldberg discloses a wireless implementation but it is well known in the art to use cabling as an alternative method of transmission. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Goldberg to include the master unit of McKinley for the purpose of adding special effects to the mixed signal, thereby increasing the enjoyment of the sound mixing listening environment.

Goldberg as modified fails to disclose wherein said master unit is arranged to supply operating power to the satellite units. Bissonnette discloses a main unit that provides power to a plurality of microphones (column 11, lines 18-24). It would have been obvious to modify Goldberg as modified by incorporating the teaching of Bissonnette such that the master unit provides power to the satellite units in order to have only one power source thus reducing the hardware needed for the device.

6. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al. (US 5,966,639) in view of McKinley Jr. (US 4,479,240) in further view of Bissonnette et al. (US 4,918,717) in further view of Sparkes .

Regarding claim 8, Goldberg as modified a satellite unit. Goldberg as modified fails to disclose that the satellite unit comprises level control means for controlling the level of the signal from the microphone input. Sparkes discloses a digital signal mixing apparatus comprising satellite units 29-33 having microphone inputs 34-38 and composite signal channel inputs 39-43. There is disclosed in column 7 lines 58-60 that the digital signal processor in the satellite unit accomplishes volume control. It would have been obvious to modify Goldberg as modified to include volume control in the satellite unit, as taught by Sparkes, for the purpose of controlling the microphone signal levels and adding flexibility to the mixing system.

Regarding claim 9, Goldberg as modified discloses wherein said level control means comprises an attenuation control (volume control inherently involves attenuation). All elements of claim 9 are comprehended by the rejection of claim 8.

Regarding claim 10, Goldberg as modified discloses wherein said level control means comprises a gain control. volume control inherently involves gain control). All elements of claim 10 are comprehended by the rejection of claim 8.

Allowable Subject Matter

7. Claims 20-22 are allowed.
8. The following is an examiner's statement of reasons for allowance: Regarding claim 20, Prior art Goldberg et al. (US 5,966,639) discloses a system for receiving audio signals from a plurality of microphones and transferring said audio signals via a common composite signal channel to a receiving unit, said system comprising:

at least two satellite units (105,107, Figure 1; column 4, lines 17-20), each having a microphone signal input (microphones 120, Figure 1; 28-31), a composite signal channel input (115, Figure 1; column 4, lines 38-45) and summing means for summing a microphone signal and a composite signal (mixer 135, Figure 4; column 4, lines 36-40); and wherein each satellite unit is connected to said common composite signal channel, such that the microphone signal received at the respective satellite unit, is added to said composite signal (the combined audio 150 of talkers B and C indicated at 145 is an output of the mixer 135, which is then transmitted over transmit antenna 110 from unit B to received antennal of unit A. The combined audio is received at unit A and transmitted to the mixer 135. The mixer 135 similarly mixes unit A microphone with the combined audio 150 to provide a combined output 160 , column 4, lines 35-50, which is fed to a master unit 170, Figure 4). Prior art McKinley Jr. (US 4,479,240) discloses an audio mixing console comprising a master unit 18 used for adding special effects to a composite site (converting a composite signal into a master signal output) for the receiving unit 20. Prior art Bissonnette et al. (US 4,918,717) discloses a main unit that provides power to a plurality of microphones (column 11, lines 18-24).

The prior art or combination thereof fails to disclose or make obvious that the system comprises at least two composite signal channels and that first and second master signals are supplied from the master unit to the receiving unit via first and second connectors and wherein the receiving unit, via at least one said first and second connectors supply operating power to at least the master unit.

Therefore the prior art or combination thereof fails to disclose or make obvious a system for receiving audio signals from a plurality of microphones as claimed.

Claims 21 and 22 are allowed due to dependency on claim 20.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



/Devona E. Faulk/

Examiner

Art Unit 2615

2/9/2008